

CLAIM LISTING

1. (Currently Amended) A monitoring system comprising:
 - a cluster of multiple application ~~servers~~ server instances and a central services instance communicatively coupled on a multi-tiered network where presentation logic and business logic are logically separated from a user application instance executing on a client, the application server instances to serve applications over the network to a plurality of clients, each of the application servers comprising a plurality of server nodes, the central services instance to provide messaging and synchronization services between each application server instance;
 - a central database storing program code and configuration information for the application server instances;
 - a plurality of MBean servers assigned to the plurality of server nodes;
 - a plurality of runtime MBeans associated with specified resources on each of the plurality of server nodes and registered with one of the MBean servers, each of the runtime MBeans collecting and reporting monitoring data for its associated resource; and
 - cluster integration logic to compile resource data collected from each of the individual runtime MBeans via the MBean servers and to provide the compiled data in a predefined organizational structure to a management interface.
2. (Original) The system as in claim 1 wherein the predefined organizational structure comprises a monitor tree, the monitor tree representing a hierarchical relationship between each of the resources monitored by each of the MBeans.
3. (Original) The system as in claim 1 wherein the cluster integration logic comprises a plurality of monitor MBeans arranged in a hierarchical tree structure, each of the monitor MBeans associated with at least one of the runtime MBeans, each of the monitor MBeans to receive the resource data from its associated runtime MBean.

4. (Original) The system as in claim 3 further comprising: a management interface to display the resource data in a graphical structure representing at least a portion of the hierarchical tree structure.
5. (Original) The system as in claim 3 further comprising: a monitor service to generate the monitor MBeans responsive to monitor configuration data.
6. (Original) The system as in claim 5 further comprising: a central database to store the monitor configuration data.
7. (Original) The system as in claim 1 further comprising: a connector associated with each MBean server to communicatively couple each MBean server to the cluster integration logic.
8. (Currently Amended) A method comprising:
communicatively coupling a plurality of server nodes **via an application server instance that is part of a cluster of application server instances and a central services instance on a multi-tiered network where presentation logic and business logic are logically separated from a user application instance executing on a client, the server nodes** to serve applications over the network to a plurality of clients, **the central services instance to provide messaging and synchronization services between each application server instance;**
assigning a dedicated MBean server to each of the plurality of server nodes;
associating a plurality of runtime MBeans with specified resources on each of the plurality of server nodes and registering the MBeans with one of the individual MBean servers, each of the runtime MBeans collecting and reporting monitoring data for its associated resource;
and
integrating the resource data collected from each of the individual runtime MBeans and providing the integrated data to a management interface according to a predefined organizational structure.

9. (Original) The method as in claim 8 wherein the predefined organizational structure comprises a monitor tree, the monitor tree representing a hierarchical relationship between each of the resources monitored by each of the MBeans.

10. (Original) The method as in claim 8 wherein the predefined organizational structure comprises a plurality of monitor MBeans arranged in a hierarchical tree structure, each of the monitor MBeans associated with at least one of the runtime MBeans, each of the monitor MBeans to receive the resource data from its associated runtime MBean.

11. (Original) The method as in claim 10 further comprising: displaying the resource data in a graphical structure representing at least a portion of the hierarchical tree structure.

12. (Original) The method as in claim 8 further comprising: generating the monitor MBeans responsive to monitor configuration data stored within a central database.

13. (Original) The method as in claim 8 further comprising: communicatively coupling each MBean server to the cluster integration logic via a connector.

14. (Currently Amended) An article of manufacture **comprising a machine-readable storage medium** including ~~program code~~ **machine-executable instructions stored thereon** which, when executed by a machine, causes the machine to perform the operations of:
communicatively coupling a plurality of server nodes **via an application server instance that is part of a cluster of application server instances and a central services instance** on a **multi-tiered** network **where presentation logic and business logic are logically separated from a user application instance executing on a client, the server nodes** to serve applications over the network to a plurality of clients, **the central services instance to provide messaging and synchronization services between each application server instance;**

assigning a dedicated MBean server to each of the plurality of server nodes;

associating a plurality of runtime MBeans with specified resources on each of the plurality of server nodes and registering the MBeans with one of the individual MBean servers,

each of the runtime MBeans collecting and reporting monitoring data for its associated resource;
and

integrating the resource data collected from each of the individual runtime MBeans and
providing the integrated data to a management interface according to a predefined organizational
structure.

15. (Original) The article of manufacture as in claim 14 wherein the predefined
organizational structure comprises a monitor tree, the monitor tree representing a hierarchical
relationship between each of the resources monitored by each of the MBeans.

16. (Original) The article of manufacture as in claim 14 wherein the predefined
organizational structure comprises a plurality of monitor MBeans arranged in a hierarchical tree
structure, each of the monitor MBeans associated with at least one of the runtime MBeans, each
of the monitor MBeans to receive the resource data from its associated runtime MBean.

17. (Original) The article of manufacture as in claim 16 comprising additional program code
to cause said machine to perform the operations of:

displaying the resource data in a graphical structure representing at least a portion of the
hierarchical tree structure.

18. (Original) The article of manufacture as in claim 14 further comprising: generating the
monitor MBeans responsive to monitor configuration data stored within a central database.

19. (Original) The article of manufacture as in claim 14 further comprising:
communicatively coupling each MBean server to the cluster integration logic via a connector.

20. (Canceled)